DEPARTMENT OF DEFENSE
MERIT
Materials of Evolving Regulatory Interest Team

Perchlorate Update

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Perchlorate Uses

- **Ammonium perchlorate is an efficient and stable oxidizer used in solid fuel for rockets and missiles and munitions.**
- **Industrial applications include fireworks, flares, blasting powder, and disinfectants**
- **Perchlorate salts occur as both naturally occurring and a man-made compounds**

Interagency Efforts to Address Perchlorate

- **Federal agency efforts through the IPSC led to the formalization of the Interagency Working Group (IWG)**

- **IWG members include:**
  - **DoD, DOE, NASA, EPA, USDA, FDA, HHS, DOI**
  - **Co-Led by Office of Science Technology and Policy (OSTP) and Office of Management and Budget (OMB)**

IWG Tasked the National Academy of Sciences to Review Basic Science Issues

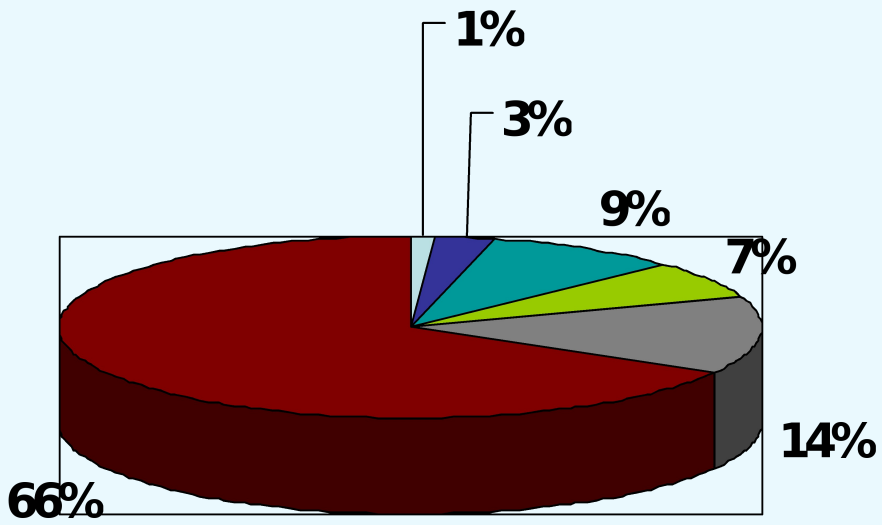
- **State of the science regarding potential thyroid disruption**
- **Levels of chronic inhibition of iodine uptake that lead to adverse effects**
- **Levels at which changes in thyroid hormones lead to adverse effects**

During NAS Review, DoD Initiated Efforts to Address Perchlorate

DoD has invested over 60 million dollars, to date, on:

- **perchlorate detection methods,**
- **perchlorate occurrence studies,**
- **human health effects studies,**
- **pollution prevention measures,**
- **treatment technologies, and**
- **site assessment and cleanup efforts.**

DoD Perchlorate Expenditures (as of September 13, 2016)



- Analytical Methodology $740,000
- Occurrence $1,603,000
- Human Health $5,284,502
- Ecological $4,065,000
- Prevention $8,254,000
- Treatment Technologies $40,081,189

NAS Panel Findings (Published 01/10/05)

- **The NAS Panel reviewed available animal and human studies.**
- **Based on human study results, the NAS Panel concluded no significant inhibition of iodine uptake to the thyroid at the 0.0007 mg/kg/day dose.**
- **The NAS Panel also proposed a specific Reference Dose or RfD of 0.0007 mg/kg/day that would not result in health impacts, even for sensitive subpopulations.**

EPA Response to NAS Findings

- **Updated the IRIS perchlorate posting, citing the NAS Panel Report and posted the RfD of 0.0007 mg/kg/day**
- **Calculates the DWEL at 24.5 ppb (based on the posted RfD)**
- **Initiated efforts to update the interim environmental restoration screening**

IWG Remains Engaged

IWG members are working collaboratively on issues raised by the NAS Review:

- **Evaluation of the relative source contribution for perchlorate**
- **Identification of outstanding research to address specific NAS recommendations**

DoD and EPA are actively developing internal guidance through the IWG process

DoD Welcomes Working in Partnership with States on Perchlorate Issues

- **Ongoing productive dialogue with California**

- **Initiating discussions with ECOS members on the broader interest in promoting sustainable operations**

DoD Website

- **For updates and information, please go to:**
- **http://www.dodperchlorateinfo.net/**